

Chapter 2

Description of Alternatives



2.1 INTRODUCTION

There are 21 LUPs proposed for potential amendment of fire management direction. This chapter describes the alternative fire management directions being evaluated for potential use in this amendment. The existing fire management direction in these LUPs (referred to as Alternative B: No Action) is, in many instances, inconsistent with “on-the-ground” fire management practices and it does not comply with national fire management policies or BLM guidance. To address these problems, four alternatives were evaluated and considered. One has been brought forward for further analysis as Alternative A: Proposed Action. Discussion of Alternative A is presented in Section 2.2. Discussion of Alternative B: No Action is presented in Section 2.3. The two other alternatives considered were eliminated from further detailed analysis and are presented in Section 2.4.

The following criteria were used in the development and consideration of the fire management alternatives presented in this section:

- Integrate fire management direction with other resource needs and uses within each LUP area
- Comply with 2001 Federal Wildland Fire Management Policy and IM-WO-2004-007

The existing fire management direction at the Land Use Plan level in the 21 planning areas is diverse and cannot be characterized by a few simple statements. However, existing goals, objectives and decisions generally lean toward suppression of wildland fire, limited use of prescribed fire and non-fire fuels treatments, and no wildland fire use. The two alternatives considered but eliminated from further analysis (Section 2.4) only meet portions of the Purpose and Need for action. Alternative A on the other hand, considers wildland fire use, prescribed fire and non-fire fuel treatments, as valuable tools when used in appropriate locations. It conforms to national fire policy as well as the current understanding of fire’s role in healthy ecosystems and its use as a tool in avoiding catastrophic and uncontrollable wildfire events.

The fire management objectives for Alternatives A and B can be broadly stated as:

- **Alternative A--Proposed Action:** Manage fire using a full suite of tools that allows for the graduated movement of FRCC back to a more ecologically sustainable condition.
- **Alternative B--No Action:** Continue suppressing most/all wildland fires with limited use of prescribed fire and other means of fuels reduction. Moving natural systems to an ecologically sustainable condition using fire management actions is not a primary goal.

A more comprehensive comparison of Alternative A and Alternative B is presented in **Appendix B**.

The alternative selected and how it addresses potential issues associated with other resource values and uses will determine the tools available to manage wildland fire, hazardous fuels, ecosystem restoration (related to fire) and emergency stabilization and rehabilitation.

Resource concerns have been identified from comments received from the public, collaborating agencies and through the internal BLM review of potential resource conflicts. Section 1.7 and **Appendix A** describe the resources identified through scoping and the issues derived from comments received during scoping and BLM resource review. These issues helped shape the management strategies associated with the Proposed Action.

In implementation of the alternative selected, agency personnel would work collaboratively with other federal agencies, state government, county governments, Tribal governments and other interested Native American groups. Furthermore, it is acknowledged that environmental conditions pertaining to fire management are constantly in flux due to uncontrollable changes, such as invasive species establishment or weather patterns. Fire managers would take this into consideration when following fire management guidelines. This is part of an adaptive management strategy that refines and updates desired conditions and management strategies as the BLM obtains new information over the life of a BLM LUP (typically 15 years).

2.2 ALTERNATIVE A: PROPOSED ACTION

The Proposed Action meets the Purpose and Need of incorporating new fire management direction on BLM-administered public lands in Utah. In addition to this proposed LUP Amendment, more detailed and specific information is provided in four FMPs prepared for each of the planning areas as described in Chapter 1. In order to meet fire management needs and comply with current fire policy and guidance, this LUP Amendment would amend existing LUP fire management decisions, establish DWFC and provide for fire management actions that address BLM policy outlined in IM-WO-2004-007. Specifically, the Proposed Action would:

- Establish landscape-level, fire management goals and objectives
- Describe DWFC by FRCC and the management strategies (considering firefighter and public safety) and actions (appropriate management response and hazardous fuel treatments) to meet DWFC and land use allocations
- Describe areas where fire may be restored to the ecosystem through wildland fire use for resource benefit and areas where wildland fire use is not appropriate
- Identify Resource Protection Measures for fire management practices (wildland fire suppression, wildland fire use for resource benefit, prescribed fire treatments, non-fire fuel treatments and emergency stabilization and rehabilitation actions) to protect natural or cultural resource values
- Identify criteria that would be used for establishing fire management priorities
- Identify maximum burned areas and treatment acres (for the 15-year life of plan) for wildland fire; wildland fire use for resource benefit; prescribed fire treatments; non-fire fuel treatments; and emergency stabilization and rehabilitation actions

2.2.1 Proposed Action: Landscape Level Fire Management Goals and Objectives

- Firefighter and public safety would be the primary goal in all fire management decisions and actions
- Wildland fire would be used to protect, maintain and enhance resources and, when possible, be allowed to function in its natural ecological role
- Hazardous fuels would be reduced to restore ecosystems; protect human, natural and cultural resources; and reduce the threat of wildfire to communities
- Fires would be suppressed at minimum cost, taking into account firefighter and public safety and benefits and values to be protected, consistent with resource objectives
- BLM would provide a consistent, safe and cost-effective fire management program through appropriate planning, staffing, training, equipment and management
- Every area with burnable vegetation would have an FMP based on a foundation of sound science
- Emergency stabilization, rehabilitation, and restoration efforts would be undertaken to protect and sustain resources, public health and safety and community infrastructure
- BLM would work together with their partners and other affected groups and individuals to reduce risks to communities and restore ecosystems

Appropriate Management Response

A wildland fire that is not a prescribed fire requires an appropriate management response (AMR). The AMR can range from full suppression to managing fire for resource benefit (fire use). It is guided by the strategies and objectives outlined in the development of the LUP, reflecting land and resource values and objectives. The FMP outlines fire management activities and procedures to accomplish those objectives.

2.2.2 Proposed Action: DWFC and Management Strategies and Actions to Meet DWFC

The general DWFC is to have ecosystems that are at a low risk of losing ecosystem components following wildfire and that function within their historical range. In terms of FRCC, the DWFC outside the WUI is to trend to a lower FRCC using the least intrusive method possible. In other words, the DWFC is to move lands in FRCC 3 to FRCC 2 and lands in FRCC 2 to FRCC 1 through fire and non-fire treatments where wildland fire use is the preferred method of treatment, when feasible. Inside the WUI, the general DWFC is to have less potential for values to be threatened by wildland fire, usually through some modification of fuels.

Fire Regime

Fire Regime refers to the historical fire frequency (called fire return interval) and the severity with which fire occurred. Vegetation types in the west developed under these fire regimes.

Fire Regime I low-severity fires with a frequency of 0-35 years.

Fire Regime II stand replacement severity fires with a frequency of 0-35 years.

Fire Regime III mixed severity fires with a frequency of 35 to 100 years.

Fire Regime IV stand replacement severity fires with a frequency of 35-100 years.

Fire Regime V stand replacement or mixed severity fires with a frequency of 200+ years.

2.2.2.1 Proposed Action: Management Strategies and Actions to Meet DWFC

In all fire management decisions, strategies and actions, firefighter and public safety would be the first and highest priority. The full range of management strategies and actions would be used to protect firefighter and public safety. This priority overrides all other strategies and actions. Further, the full range of fire management actions, consistent and integrated with other Land Use Plan decisions, would be used to help achieve ecosystem sustainability, including its interrelated ecological, economic and social components.

The following are general strategies and actions for all facets of the wildland fire management program, including suppression, wildland fire use, prescribed fire, non-fire fuel treatments, emergency stabilization and rehabilitation, prevention, and community protection:

- The appropriate management response would be provided to all wildland fires, emphasizing firefighter and public safety and considering suppression costs, benefits and values to be protected. The appropriate management response would be consistent with resource objectives, standards and guidelines. Response to wildland fire would be based on ecological and social costs and benefits of the fire. The circumstances under which the fire occurs and the likely consequences to firefighter and public safety and welfare, natural and cultural resources and values to be protected, would dictate the appropriate management response to the fire. Fire Management Unit objectives (as included in the FMPs), would further guide the appropriate management response.
- Wildland fire would be used to protect, maintain and enhance resources and, when possible, would be allowed to function in its natural ecological role. Areas where wildland fire use is appropriate and not appropriate are identified in **Table 2.1** and **Section 2.2.3**. The FMPs would provide further operational guidance for wildland fire use.
- To reduce risks and to restore ecosystems, the following fuels management tools would be allowed throughout Utah: wildland fire use, prescribed fire, and mechanical, chemical, seeding, and biological actions. As conditions allow, the BLM would employ the least intrusive method over more intrusive methods. For example, wildland fire use is the preferred method of treatment. Where wildland fire use is not feasible, prescribed burning would be the preferred method.

Where prescribed burning is not feasible, non-fire fuel treatments would become the preferred method of treatment.

- Work with partners in the WUI in wildland firefighting, hazardous fuels reduction, cooperative fire prevention education and technical assistance. Unauthorized wildland fire ignitions would be prevented through coordination with partners and affected groups and individuals. The full range of prevention and mitigation activities would be used: personal contacts, mass media, education programs and signage.
- The following Emergency Stabilization and Rehabilitation (ESR) actions (after wildfire suppression) and restoration for planned actions may be utilized to reduce potential for soil erosion and invasive species spread: seeding or planting native and/or non-native species; applying approved herbicides; implementing soil stabilization measures (e.g., stabilization structures, mulches); protecting cultural resources; repairing or replacing facilities; fencing, herding or removing livestock and/or horses; and resting allotments. Specific actions could include brush/tree chopping; contour tree felling; silt catchments; waddles, straw or fabric silt traps; mulching; drill seeding; aerial seeding; aerial seeding followed by mechanical seed covering (chaining, harrowing or other mechanical means); planting seedlings; fence construction or rebuilding; road/trail maintenance or closures; cattle guards; road culvert installation or cleaning; water bars; sign installation and maintenance; herbicidal or mechanical weed treatments; weather station installation and maintenance; repairing or rebuilding of minor facilities (cross fencing, wildlife structures, recreational facilities).
- Monitoring actions would be undertaken to determine results from fire management decisions and actions. Monitoring results would be used in determining the need for further LUP amendment or revisions.

2.2.2.2 DWFC and Management Actions by Vegetation Group

The DWFC are ecosystems that are at low risk of losing key ecosystem components following fire. Outside of the WUI, the DWFC is based on the historic conditions (as supported by science and generally agreed upon by BLM resource specialists) with the assumption that those conditions are achievable, sustainable and desirable. Inside the WUI, the DWFC is based on reducing fire risk to communities.

FRCC is a description of vegetation conditions based on the change from natural fire regime and includes effects of fire suppression (fuel loading and encroachment) and invasive species. FRCC 1 is within its historical range for fire regime and vegetation attributes. FRCC 2 is moderately altered from its historical range for fire regime and vegetation attributes and FRCC 3 is substantially altered from its historical range and vegetation attributes. More information on these descriptions can be found in **Appendix D**.

The DWFC is described by major vegetation group in **Table 2.1**, based on GAP Analysis (Edwards et al. 1998) and information in Fire Effects Information System (2004), other publications as noted and input from an interdisciplinary team that included expertise in range ecology, botany, wildlife, fisheries, hydrology and fire ecology. This table also describes actions that are needed and authorized to meet the DWFC. For further

discussion and explanation of fire management decisions and characterizations, refer to **Appendix D**. Chapter 3 provides more information on the fire ecology and vegetation characteristics for each major vegetation group. **Table 2.1** specifically addresses actions that result in progress toward achieving DWFC. The actions are described in terms of wildland fire, prescribed fire and non-fire fuel treatments and post-fire response (emergency stabilization and rehabilitation).

Table 2.1 DWFC by Major Vegetation Group and Actions Needed to Meet DWFC

Major Vegetation Group (% in Planning Area)	DWFC and Actions Needed to Meet DWFC
Salt Desert Scrub (29 %)	<p>The DWFC, both outside and inside the WUI, is native, open salt desert scrub vegetation with little to no invasive species cover. Fire would be mostly excluded from these vegetation types. Due to the historical lack of surface fuels, the historical fire return interval is extremely infrequent (FEIS 2004).</p> <ul style="list-style-type: none"> • Due to the historical lack of fire and current potential for cheatgrass invasion, do not allow wildland fire to burn into salt desert scrub vegetation types. Wildland fire is not desired due to high potential for cheatgrass invasion following wildfire and loss of native salt desert scrub communities. • Treat salt desert scrub types using a combination of mechanical, chemical, seeding and biological treatments to reduce cheatgrass cover and restore native communities. Prescribed fire may be used in conjunction with seeding when part of a cheatgrass control objective (Pellant 2002). Due to the high incidence of cheatgrass in this vegetation type, consider seeding following any surface-disturbing activity. • Following wildland fire, aggressively seed to reduce potential for cheatgrass and other noxious weed invasion.
Pinyon and Juniper Woodland (26 %)	<p>Where pinyon and juniper occurred historically, the DWFC both outside and inside the WUI, is open stands of pinyon and juniper with native grass and shrub understory (Miller and Wigand 1994, FEIS 2004). Where pinyon and juniper did not occur historically, the DWFC is the native shrub, grass and forest communities that the pinyon and juniper have invaded. The historical role of fire (estimated 15–50 year fire return interval) prevented encroachment of pinyon and juniper into other vegetation communities (Heyerdahl et al. 2004, Miller and Tausch 2001, Bradley et al. 1992, Romme et al. 2002). Most pinyon and juniper encroachment has occurred in the past 100 years (Miller and Wigand 1994). Follow treatments with seeding in FRCC 2 and FRCC 3 stands, which lack native understory vegetation (FEIS 2004). Historical occurrence of pinyon and juniper is difficult to map, but pre-settlement trees are generally located in shallow, rocky soils and tend to have a unique growth form characterized by rounded, spreading canopies; large basal branches; large irregular trunks; and furrowed fibrous bark (Miller and Rose 1999). Historic fire return intervals in these protected sites are greater than 100 years (Romme et al. 2002).</p> <ul style="list-style-type: none"> • When possible, allow wildland fire to play its natural role, which mimics the historical fire-return interval and severity in

Major Vegetation Group (% in Planning Area)	DWFC and Actions Needed to Meet DWFC
	<p>FRCC 1 and FRCC 2 lands that have some cover of native understory vegetation. Due to the high risk of losing key ecosystem components in FRCC 2 (lacking native understory vegetation) and FRCC 3 lands, avoid wildland fires in these areas. Prescribed fires should be applied to pinyon and juniper communities when native surface fuels will carry fire and when there is low risk of invasive species.</p> <ul style="list-style-type: none"> • Prescribed fire should be used to approximate historical fire return intervals and promote recovery of the pre-settlement vegetation cover types. Remove most young (<100 years old) pinyon and juniper trees through fire or mechanical treatments (Brockway et al. 2002). In the WUI, construct fuel breaks between BLM and private land or other values at risk. • Following wildfire in FRCC 3 (and some FRCC 2 areas that are lacking native understory vegetation), aggressively seed to reduce invasive species establishment and to restore native communities.
Sagebrush (18 %)	<p>The DWFC, both outside and inside the WUI, is healthy sagebrush defined as diverse age classes with an understory of native grasses and forbs (Paige and Ritter 1999). Research suggests that stand-replacement fires burned every 10–100 years depending on the particular sagebrush species and its associated habitat (Miller 2002, Brown 2000, FEIS 2004). Fire management actions in sagebrush must be carefully balanced between invasive species concerns, wildlife habitat and the need to restore fire.</p> <ul style="list-style-type: none"> • When possible, allow fire to play its natural role, which mimics the historical fire-return interval and severity in FRCC 1 and some FRCC 2 lands that have a low potential for cheatgrass invasion. Areas with low potential for cheatgrass invasion include higher elevation sites and/or sites that have very low incidence of cheatgrass pre-fire. • Treat dense sagebrush (>30%) (Winward 1991) with fire, mechanical or chemical treatments to reduce sagebrush canopy cover and improve native grass and forb density and cover; an additional objective in treating sagebrush is to remove encroaching pinyon and juniper trees (Miller and Tausch 2001). In the WUI, construct fuel breaks between BLM and private land (or other values at risk) in dense stands of sagebrush. • Following wildfire in FRCC 2 and FRCC 3 lands, aggressively seed to promote native understory grasses and forbs and reduce invasion of cheatgrass and noxious weeds. Consider including sagebrush in seeding mixes or planting sagebrush seedlings in high-value wildlife areas following large, high-severity wildfires when natural seed sources would be lacking.
Grassland (12 %)	<p>Where native grasslands occurred historically, the DWFC outside the WUI is native grass and forb communities. Native grasslands have been lost to pinyon and juniper encroachment, cheatgrass invasion and non-native plant seedlings (e.g., crested wheatgrass, perennial</p>

Major Vegetation Group (% in Planning Area)	DWFC and Actions Needed to Meet DWFC
	<p>ryegrass, etc.). Where non-native grasslands occur, the DWFC is the restoration of the native grassland or shrub community. The historical role of fire in Utah's grasslands was similar to pinyon and juniper and sagebrush community types with fires every 15–50 years (Paysen et al. 2000).</p> <ul style="list-style-type: none"> • When possible, allow fire to play its natural role, which mimics the historical fire-return interval and severity. • Treat native grasslands with fire, mechanical or chemical treatments to reduce encroaching trees (mainly juniper), shrubs and invasive plants. Fire treatments alone should be avoided where there is potential for cheatgrass invasion (areas below 7000 feet that have adjacent cheatgrass populations) (Pellant 2002). In the WUI, consider green stripping between BLM and private lands and other values at risk (Harrison et al. 2002). • Following wildfire in FRCC 2 and FRCC 3 lands, aggressively seed to reduce potential for cheatgrass and other invasive weeds.
Blackbrush (6 %)	<p>The DWFC, both outside and inside the WUI, is composed of dense-to-scattered shrubs and dense-to-open native grasses. Evidence suggests Utah's blackbrush communities fail to re-establish following fire (FEIS 2004).</p> <ul style="list-style-type: none"> • Wildland fire should be avoided in blackbrush communities due to invasive species concerns, historical lack of fire and poor regeneration of blackbrush following fire (Callison et al. 1985). • There is little research on non-fire treatments in blackbrush. Any treatments should be of relatively small size and closely monitored. In the WUI, consider fuels breaks between dense blackbrush stands on BLM land and private land. • Following wildfire, aggressively seed to reduce potential for invasion of cheatgrass and noxious weeds.
Mountain Shrub (2 %)	<p>The DWFC outside of the WUI is stands with patches of differing age classes. In the WUI, the DWFC is greatly reduced vegetation density or a conversion to less-flammable vegetation, between BLM and private lands or other values at risk.</p> <ul style="list-style-type: none"> • When possible, allow fire to play its natural role, which mimics the historical fire-return interval and severity in all Fire Regime Condition Classes. • Treat large expanses of even-aged, dense, homogenous stands to result in patches of diverse age classes [see Rondeau (2001) for patch size guidance]. To achieve greater habitat diversity and decreased potential for large-scale high-severity fire, reduce invasion of pinyon and juniper and reduce the average age of stands through fire, mechanical or biological (i.e., grazing goats) treatments. In the WUI, consider aggressive vegetation manipulation to create fire breaks in highly flammable shrub types (e.g., Gambel's oak) when there are values at risk.

Major Vegetation Group (% in Planning Area)	DWFC and Actions Needed to Meet DWFC
	<ul style="list-style-type: none"> • Since most of these species sprout following wildfire, consider seeding only to reduce potential for invasive weeds.
Mixed Conifer (<1 %)	<p>The DWFC outside the WUI is landscapes with a mosaic of age classes (Arno 2000). In the WUI, the DWFC is reduced canopy density and reduced ladder fuels between BLM and private lands and other values at risk.</p> <ul style="list-style-type: none"> • When possible, allow fire to play its natural role, which mimics the historical fire-return interval and severity in FRCC 1 and FRCC 2 stands. In FRCC 3 stands (dense stands with high fuels loadings), consider mechanical treatments prior to re-introducing fire. • Treat areas to result in a landscape of diverse age classes while retaining patches of large old trees. In the WUI, remove ladder fuels and create shaded fuel breaks between BLM and private land when values are at risk. • Consider tree planting following wildland fire to restore or rehabilitate the forest resource to promote forest regeneration.
Ponderosa Pine (<1 %)	<p>The DWFC, both outside and in the WUI, is open stands with a native grass and forb understory.</p> <ul style="list-style-type: none"> • When possible, allow fire to play its natural role, which mimics the historical fire-return interval and severity. Restore fire (natural or prescribed fire) to FRCC 1 and FRCC 2 stands. • Consider mechanical treatments in dense FRCC 3 stands until they reach a lower Fire Regime Condition Class before restoring fire. Reduce juniper encroachment through fire (preferred when fuels conditions allow) or mechanical treatments. In the WUI, remove ladder fuels and create fuel breaks between BLM and private land and other values at risk. • Following wildfires, consider seeding to reduce invasive weeds and planting ponderosa pine seedlings for forest restoration and rehabilitation.
Creosote Bursage (<1 %)	<p>The DWFC is for fire to be mostly excluded from these vegetation types. Historically, fire seldom to rarely occurs due to the lack of surface fuels in these communities (FEIS 2004).</p> <ul style="list-style-type: none"> • Do not allow fire to burn into these vegetation types since fire rarely occurred and the potential for cheatgrass invasion is high. • Treat creosote and bursage types using mechanical, chemical or biological treatments to reduce annual grass cover. • Following wildfire, aggressively seed to reduce potential for annual grasses and other invasive weeds.
Riparian Wetland (<1 %)	<p>The DWFC, both outside and inside the WUI, are riparian and wetland areas with the appropriate composition of native species (e.g., reduction of tamarisk and other invasive species).</p> <ul style="list-style-type: none"> • When possible, allow fire to play its natural role, mimicking the historical fire-return interval and intensity. Allow low to moderate severity fire to burn into riparian and wetland

Major Vegetation Group (% in Planning Area)	DWFC and Actions Needed to Meet DWFC
	<p>areas when natural ignitions are managed as wildland fire use.</p> <ul style="list-style-type: none"> • Restore native riparian and wetland species through fire and mechanical treatments. Reduce flammable invasive species along riparian corridors (e.g., tamarisk) through mechanical, chemical, biological and fire treatments. For prescribed fire, allow low intensity fire to back into riparian and wetland areas through ignition outside of these areas. Mechanical treatment as the initial treatment would be emphasized where there is a moderate to high potential for riparian and wetland to be burned to a high severity. • Consider active restoration options when native riparian and wetland communities are unlikely to recover with passive restoration (due to invasive species, stream bank erosion, etc).
Aspen (<1 %)	<p>The DWFC, both outside and inside the WUI, is healthy clones with diverse age classes represented and ample regeneration.</p> <ul style="list-style-type: none"> • When possible, allow fire to play its natural role that mimics the historical fire-return interval and severity in all FRCC as aspen readily sprouts following fire. • Treat aspen stands with fire or mechanical treatments to reduce encroaching junipers and conifers and to stimulate sprouting. If treated aspen stands are small, consider excluding big game and livestock until the regeneration can withstand grazing. In the WUI, consider increasing aspen cover if possible to create a shaded fuel break between private land (and other high value areas) and the more flammable conifer trees on BLM land. • Following wildfire, most aspen stands would need little stabilization, except soil stabilization on steep slopes. However, burned areas may need to be fenced to exclude wildlife and livestock until the regeneration can withstand grazing.

GAP data was developed for use at the statewide and regional level, and has limitations when used at smaller scales. A limitation of using GAP data to describe actual vegetation conditions is that it only maps the existing vegetation, not the reference condition or potential vegetation. Across Utah, major vegetation community type changes have occurred in grasslands, salt desert scrub, sagebrush and pinyon and juniper woodland (FEIS 2004, Kay 2003, Kay 2002). GAP data does not portray these vegetation community changes; it only portrays existing vegetation as a snapshot in time. In order to accurately map FRCC, there must be a detailed knowledge of historical vegetation composition and structure, and disturbance. Unfortunately, that detailed information is lacking across much of the state. It is assumed, due to the prevalence of invasive species, long-term losses of native vegetation, repeat photography, known missed fire return intervals and persistent drought, that most of Utah's BLM lands are characterized as FRCC 2 and FRCC 3. Section 3.3 discusses FRCC in further detail.

One major vegetation group not characterized by GAP vegetation community types is cheatgrass. Although cheatgrass areas in Utah are not mapped, it is accepted that cheatgrass covers large areas of BLM lands in Utah (Menakis et al. 2003). The cheatgrass vegetation type mostly occurs in lower elevations (<6500 feet). The major vegetation types that have been displaced by cheatgrass are salt desert scrub, sagebrush and grasslands. Where cheatgrass has invaded, the DWFC is to control cheatgrass and take actions to restore the native vegetation community that has been invaded. Fires in cheatgrass-invaded areas or areas with high potential for invasion should be aggressively suppressed and aggressively rehabilitated following wildfire. Wildland fire use would not be appropriate in cheatgrass-invaded sites or in areas with high potential for invasion because of the lack of ability to properly rehabilitate. Costs associated with seeding are not funded by the BLM following wildland fire use.

2.2.3 Proposed Action: Wildland Fire Use for Resource Benefit

Wildland fire would be used to protect, maintain and enhance resources and, when possible, would be allowed to function in its natural ecological role. However, due to resource conditions and proximity to values at risk, fire cannot be allowed to resume its natural role on all BLM lands across the state. The DWFC is that as lands are transitioned from a higher FRCC to a lower FRCC, the applicability of wildland fire use would increase. Therefore, fire managers would periodically assess FRCC following changes in vegetation due to management actions and natural changes. This alternative authorizes wildland fire use as a tool, when appropriate, to reach the DWFC.

Wildland fire use would be an appropriate management response to naturally-ignited wildland fires to accomplish specific resource management objectives in predefined designated areas. Operational management of wildland fire use is described in the Wildland Fire Implementation Plan (WFIP). This alternative attempts to generally clarify the types of areas that are not suitable for wildland fire use, while leaving other areas open for possible wildland fire use.

Though specific areas for wildland fire use would be identified in the FMPs, wildland fire use may be authorized for all areas, except when the following resources and values may be negatively impacted and there are no reasonable Resource Protection Measures to protect such resources and values:

- WUI areas
- Areas that are known to be highly susceptible to post-fire cheatgrass or invasive weed invasion
- Important terrestrial and aquatic habitats (including designated critical habitats)
- Non-fire adapted vegetation communities
- Sensitive cultural resources
- Areas of soil with high or very high erosion hazard
- Class I areas and PM₁₀ non-attainment areas
- Administrative sites
- Developed recreation sites
- Communication sites

- Oil, gas and mining facilities
- Above-ground utility corridors
- High-use travel corridors, such as interstates, railroads and/or highways

The appropriate management response for areas containing these resources or values may be wildland fire use, but Resource Protection Measures would be necessary to protect these values if they are threatened. Additional protection actions may include employing strategies and tactics to avoid these values (e.g., using fire retardant to reduce fire spread in certain areas). In fire situations where these resources or values would not be impacted, wildland fire use may still not be employed due to other parameters (weather, personnel availability, etc.). In these situations, the appropriate management response—from aggressive initial action to monitoring—would be used. The DWFC would be to restore fire to ecosystems when feasible; therefore, fuel treatments should focus on protecting the resources and values listed above so future wildland fire use actions could be more easily implemented across the state.

2.2.4 Proposed Action: Maximum Burned Areas and Treated Areas for Analysis

Table 2.2 identifies the maximum burned acres and treated acres that are identified as part of the Proposed Action for analysis purposes. The BLM cannot accurately predict wildland fire acres (or resultant post-fire stabilization and rehabilitation acres). It is possible that wildland fire acres would exceed the acres identified for analysis. If this is the case, it is highly probable that the emergency stabilization and rehabilitation acres would also be exceeded. In the event wildland fire acres greatly exceed the acres identified in this plan, the BLM is authorized to implement appropriate emergency stabilization and rehabilitation to areas that would exceed acreage identified. Once acres have been exceeded for a particular Land Use Plan, the appropriate BLM Field Office would review their existing amended Land Use Plans to determine if a Land Use Plan revision or amendment is necessary.

Acres burned in wildland fire use would also be highly variable, but would not be expected to exceed acres identified in this alternative. However, the BLM can more accurately predict prescribed fire and non-fire fuel treatments acres. Prescribed fire and non-fire treatment acre estimates reflect funding and personnel that are similar to funding and staffing levels from 2000 to 2004.

Table 2.2 was derived from discussions with local BLM Field Office personnel on how much treatment could be accomplished based on the condition of the existing vegetation, expected budget allocations, expected personnel capabilities, risk of using certain treatments, policy and guidance direction and social acceptability of treatments. Wildland fire figures were based on recent fire history (<10 years), which is much higher than fire occurrences and associated acres that burned more than 20 years ago.

The limitation of applying this approach to determine acres is that it does not take into full consideration the acreage that should be treated to adequately restore and/or maintain ecosystems. Due to severely altered vegetation conditions; potential for aggressive non-native species invasion; fragmented land ownership; and air quality concerns, it is not possible to treat as many acres as were burned historically.

Table 2.2 15-Year Cumulative Maximum Burned & Treated Acres Associated with Proposed Action

Land Use Plan (BLM Acres) By Field Office	Wildland Fire	Wildland Fire Use	Prescribed Fire	Non-Fire Treatment	Emergency Stabilization and Rehabilitation
Salt Lake Field Office:					
Box Elder RMP (1,072,469 acres)	100,000	0	6,000	14,000	100,000
Iso-Tract RMP (11,917 acres)	1,000	0	500	1,000	1,000
Park City MFP (107 acres)	100	0	100	100	100
Pony Express RMP (1,990,419 acres)	300,000	0	15,000	55,000	300,000
Randolph MFP (166,058 acres)	15,000	0	7,000	14,000	15,000
Richfield Field Office:					
Forest MFP (75,320 acres)	10,000	4,500	4,500	4,500	10,000
Henry Mountain MFP (1,426,064 acres)	50,000	50,000	50,000	50,000	50,000
Mountain Valley MFP (431,458 acres)	90,000	36,000	36,000	36,000	90,000
Parker Mountain (155,511 acres)	30,000	15,000	15,000	15,000	30,000
Fillmore Field Office:					
House Range RMP (2,180,378 acres)	100,000	10,000	20,000	20,000	100,000
Warm Springs RMP (2,123,780 acres)	100,000	10,000	20,000	10,000	100,000
Moab Field Office:					
Grand RMP (1,848,967 acres)	100,000	20,000	40,000	40,000	100,000
Monticello Field Office:					
San Juan RMP (1,782,113 acres)	100,000	20,000	40,000	40,000	100,000
Kanab Field Office:					
Escalante MFP (27,532 acres)	4,000	100	4,000	4,000	4,000
Paria MFP (36,234 acres)	6,000	100	6,000	6,000	6,000
Vermilion MFP (224,235 acres)	4,000	0	15,000	20,000	4,000
Zion MFP (119,792 acres)	25,000	100	25,000	30,000	25,000
Cedar City Field Office:					
Cedar Beaver Garfield Antimony RMP	130,000	0	80,000	100,000	130,000

Land Use Plan (BLM Acres) By Field Office	Wildland Fire	Wildland Fire Use	Prescribed Fire	Non-Fire Treatment	Emergency Stabilization and Rehabilitation
(1,070,648 acres)					
Pinyon MFP (1,211,977 acres)	85,000	6,000	50,000	35,000	85,000
St. George Field Office:					
St. George RMP (625,385 acres)	50,000	500	30,000	10,000	50,000
Grand Staircase-Escalante National Monument:					
GSENM MP (1,862,594 acres)	160,000	8,000	160,000	160,000	160,000
TOTALS:	1,460,100	180,300	624,100	664,600	1,460,100

The assumptions used in developing the acreage in **Table 2.2** include:

- All prescribed fire and non-fire treatment acres would be for a primary purpose of hazardous fuels reduction or community protection from fires. While these acres would likely also accomplish other resource objectives, this plan aims to directly analyze effects only from fire management decisions.
- Similar treatments may occur for other programs (e.g., wildlife and range improvements) that would provide secondary benefits for hazardous fuels reduction. These acres are not analyzed in this EA.
- Based on fuel treatments practices over the past five years and projected future trends, at least 90 percent of all non-fire treatment acres would be mechanical treatments or seedings. Chemical and biological treatments would comprise less than 10 percent of the acres for non-fire treatments.

2.2.5 Proposed Action: Criteria for Establishing Fire Management Priorities

Protection of human life is the primary priority. Setting priorities among protecting human communities and community infrastructure, other property and improvements, and natural and cultural resources would be based on human health and safety, the values to be protected, and the costs of protection. Once people have been committed to an incident, these human resources become the highest values to be protected. Priorities for all aspects of fire management decisions and actions would be based on the following:

- WUI
- Maintain existing healthy ecosystems
- High priority sub-basin (HUC 4) or watershed (HUC 5)
- Special status species
- Cultural resources and cultural landscapes

2.2.6 Proposed Action: Resource Protection Measures for Fire Management Practices

Resource Protection Measures for fire management practices (wildland fire suppression, wildland fire use for resource benefit, prescribed fire, non-fire fuel treatments, emergency stabilization and rehabilitation) to protect natural or cultural resource

values are described in **Table 2.3**. The fire management practice that they pertain to is indicated in parenthesis after the Resource Protection Measure is stated. Each protection measure has an identifying code noted in the left-hand column. Some of these measures are general and some are specific. This is because some are directly repeated from BLM guidance and policy and therefore have more specificity. Some, on the other hand, are general guidelines that represent good management practices. Where general guidelines are presented, it is understood that there would be more specificity identified at the project design and implementation levels.

Table 2.3 Resource Protection Measures (RPM)

Resource Protection Measure (and applicable fire management practices)	
RPM Code	<i>SUP: Wildfire suppression</i> <i>RX: Prescribed Fire</i> <i>ESR: Emergency Stabilization and Rehabilitation</i> <i>WFU: Wildland fire use for resource benefit</i> <i>NF: Non-fire fuel treatments</i>
Natural, Biological, and Cultural Resources:	
Air	
A-1	Evaluate weather conditions, including wind speed and atmospheric stability, to predict impacts from smoke from prescribed fires and wildland fire use. Coordinate with Utah Department of Environmental Quality for prescribed fires and wildland fire use. (RX, WFU)
A-2	When using chemical fuels reduction methods, follow all label requirements for herbicide application. (NF)
Soil and Water	
SW-1	Avoid heavy equipment use on highly erosive soils (soils with low soil loss tolerance), wet or boggy soils and slopes greater than 30%, unless otherwise analyzed and allowed under appropriate NEPA evaluation with implementation of additional erosion control and other soil protection mitigation measures. (SUP, WFU, RX, NF, ESR)
SW-2	There may be situations where high intensity fire will occur on sensitive and erosive soil types during wildland fire, wildland fire use or prescribed fire. If significant areas of soil show evidence of high severity fire, then evaluate area for soil erosion potential and downstream values at risk and implement appropriate or necessary soil stabilization actions such as mulching or seeding to avoid excessive wind and water erosion. (SUP, WFU, RX)
SW-3	Complete necessary rehabilitation on firelines or other areas of direct soil disturbance, including but not limited to waterbarring firelines, covering and mulching firelines with slash, tilling and/or subsoiling compacted areas, scarification of vehicle tracks, OHV closures, seeding and/or mulching for erosion protection. (SUP, WFU, RX)
SW-4	When using mechanical fuels reduction treatments, limit tractor and heavy equipment use to periods of low soil moisture to reduce the risk of soil compaction. If this is not practical, evaluate sites, post treatment and if necessary, implement appropriate remediation, such as subsoiling, as part of the operation. (NF)
SW-5	Treatments such as chaining, plowing and roller chopping shall be conducted as much as practical on the contour to reduce soil erosion (BLM ROD 13 Western States Vegetation Treatment EIS 1991). (NF, ESR)
SW-6	When using chemical fuel reduction treatments follow all label directions, additional mitigations identified in project NEPA evaluation and the Approved

RPM Code	Resource Protection Measure (and applicable fire management practices)
	<i>SUP: Wildfire suppression</i> <i>WFU: Wildland fire use for resource benefit</i> <i>RX: Prescribed Fire</i> <i>NF: Non-fire fuel treatments</i> <i>ESR: Emergency Stabilization and Rehabilitation</i>
	Pesticide Use Proposal. At a minimum, provide a 100-foot-wide riparian buffer strip for aerial application, 25 feet for vehicle application and 10 feet for hand application. Any deviations must be in accordance with the label. Herbicides would be applied to individual plants within 10 feet of water where application is critical (BLM ROD 13 Western States Vegetation Treatment EIS 1991). (NF)
SW-7	Avoid heavy equipment in riparian or wetland areas. During fire suppression or wildland fire use, consult a resource advisor before using heavy equipment in riparian or wetland areas. (SUP, WFU, RX, NF, ESR)
SW-8	Limit ignition within native riparian or wetland areas. Allow low-intensity fire to burn into riparian areas. (RX)
SW-9	Suppress wildfires consistently with compliance strategies for restoring or maintaining the restoration of water quality impaired [303(d) listed] waterbodies. Do not use retardant within 300 feet of water bodies. (SUP, WFU)
SW-10	Plan and implement projects consistent with compliance strategies for restoring or maintaining the restoration of water quality impaired [303(d) listed] waterbodies. Planned activities should take into account the potential impacts on water quality, including increased water yields that can threaten fisheries and aquatic habitat; improvements at channel crossings; channel stability; and downstream values. Of special concern are small headwaters of moderate to steep watersheds; erosive or saline soils; multiple channel crossings; at-risk fisheries; and downstream residents. (RX, NF, ESR)
Vegetation	
V-1	When restoring or rehabilitating disturbed rangelands, non-intrusive, nonnative plant species are appropriate for use when native species: (1) are not available; (2) are not economically feasible; (3) cannot achieve ecological objectives as well as nonnative species; and/or (4) cannot compete with already established native species (Noxious Weeds Executive Order 13112 2/3/1999; BLM Manual 9015; BLM ROD 13 Western States Vegetation Treatment EIS 1991). (RX, NF, ESR)
V-2	In areas known to have weed infestations, aggressive action should be taken in rehabilitating firelines, seeding and follow-up monitoring and treatment to reduce the spread of noxious weeds. Monitor burned areas and treat as necessary. All seed used would be tested for purity and for noxious weeds. Seed with noxious weeds would be rejected (ROD 13 Western States Vegetation Treatment EIS 1991). (SUP, WFU, RX, NF, ESR)
Special Status Species	
SSS-1	Initiate emergency Section 7 consultation with United States Fish and Wildlife Service (USFWS) upon the determination that wildfire suppression may pose a potential threat to any listed threatened or endangered species or adverse modification of designated critical habitat. (SUP)
SSS-2	Prior to planned fire management actions, survey for listed threatened and endangered and non-listed sensitive species. Initiate Section 7 consultation with USFWS as necessary if proposed project may affect any listed species. Review appropriate management, conservation and recovery plans and include recovery plan direction into project proposals. For non-listed special

RPM Code	Resource Protection Measure (and applicable fire management practices)
	<i>SUP: Wildfire suppression</i> <i>WFU: Wildland fire use for resource benefit</i> <i>RX: Prescribed Fire</i> <i>NF: Non-fire fuel treatments</i> <i>ESR: Emergency Stabilization and Rehabilitation</i>
	status plant and animal species, follow the direction contained in the BLM 6840 Manual. Ensure that any proposed project conserves non-listed sensitive species and their habitats and ensure that any action authorized, funded or carried out by BLM does not contribute to the need for any species to become listed. (RX, NF, ESR)
SSS-3	See site-specific conservation measures that will be identified in the Biological Assessment (BA) (BLM 2005). (SUP, WFU, RX, NF, ESR)
Fish and Wildlife	
FW-1	Avoid treatments during nesting, fawning, spawning, or other critical periods for wildlife or fish. (RX, NF, ESR)
FW-2	Avoid if possible or limit the size of, wildland fires in important wildlife habitats such as, mule deer winter range, riparian and occupied sage grouse habitat. Use resource advisors to help prioritize resources and develop Wildland Fire Situation Analyses (WFSAs) and Wildland Fire Implementation Plans (WFIPs) when important habitats may be impacted. (SUP, WFU)
FW-3	Minimize wildfire size and frequency in sagebrush communities where sage grouse habitat objectives will not be met if a fire occurs. Prioritize wildfire suppression in sagebrush habitat with an understory of invasive, annual species. Retain unburned islands and patches of sagebrush unless there are compelling safety, private property and resource protection or control objectives at risk. Minimize burn-out operations (to minimize burned acres) in occupied sage-grouse habitats when there are no threats to human life and/or important resources. (SUP)
FW-4	Establish fuel treatment projects at strategic locations to minimize size of wildfires and to limit further loss of sagebrush. Fuel treatments may include greenstripping to help reduce the spread of wildfires into sagebrush communities. (RX, NF)
FW-5	Use wildland fire to meet wildlife objectives. Evaluate impacts to sage grouse habitat in areas where wildland fire use for resource benefit may be implemented. (WFU, RX)
FW-6	Create small openings in continuous or dense sagebrush (>30% canopy cover) to create a mosaic of multiple-age classes and associated understory diversity across the landscape to benefit sagebrush-dependent species. (WFU, RX, NF)
FW-7	On sites that are currently occupied by forests or woodlands, but historically supported sagebrush communities, implement treatments (fire, cutting, chaining, seeding etc.) to re-establish sagebrush communities. (RX, NF)
FW-8	Evaluate and monitor burned areas and continue management restrictions until the recovering and/or seeded plant community reflect the desired condition. (SUP, WFU, RX, ESR)
FW-9	Utilize the Emergency Stabilization and Rehabilitation program to apply appropriate post-fire treatments within crucial wildlife habitats, including sage grouse habitats. Minimize seeding with non-native species that may create a continuous perennial grass cover and restrict establishment of native vegetation. Seed mixtures should be designed to re-establish important seasonal habitat components for sage grouse. Leks should not be re-seeded

Resource Protection Measure (and applicable fire management practices)	
RPM Code	<i>SUP: Wildfire suppression</i> <i>WFU: Wildland fire use for resource benefit</i> <i>RX: Prescribed Fire</i> <i>NF: Non-fire fuel treatments</i> <i>ESR: Emergency Stabilization and Rehabilitation</i>
	with plants that change the vegetation height previously found on the lek. Forbs should be stressed in early and late brood-rearing habitats. In situations of limited funds for ESR actions, prioritize rehabilitation of sage grouse habitats. (ESR)
Wild Horses and Burros	
WHB-1	Avoid fencing that would restrict access to water. (RX, NF, ESR)
Cultural Resources	
CR-1	Cultural resource advisors should be contacted when fires occur in areas containing sensitive cultural resources. (SUP)
CR-2	Wildland fire use is discouraged in areas containing sensitive cultural resources. A Programmatic Agreement is being prepared to cover the finding of adverse effects to cultural resources associated with wildland fire use. (WFU)
CR-3	Potential impacts of proposed treatment should be evaluated for compliance with the National Historic Preservation Act (NHPA) and the Utah Statewide Protocol. This should be conducted prior to the proposed treatment. (RX, NF, ESR)
Paleontology	
P-1	Planned projects should be consistent with BLM Manual and Handbook H-8270-1, Chapter III (A) and III (B) to avoid areas where significant fossils are known or predicted to occur or to provide for other mitigation of possible adverse effects. (RX, NF, ESR)
P-2	In the event that paleontological resources are discovered in the course of surface fire management activities, including fires suppression, efforts should be made to protect these resources. (SUP, WFU, RX, NF, ESR)
Resource Uses:	
Forestry	
F-1	Planned projects should be consistent with HFRA Section 102(e) (2) to maintain or contribute to the restoration of old-growth stands to a pre-fire suppression condition and to retain large trees contributing to old-growth structure. (SUP, WFU, RX, NF)
F-2	During planning, evaluate opportunities to utilize forest and woodland products prior to implementing prescribed fire activities. Include opportunities to use forest and woodland product sales to accomplish non-fire fuel treatments. In forest and woodland stands, consider developing silvicultural prescriptions concurrently with fuel treatments prescriptions. (RX, NF)
Livestock Grazing	
LG-1	Coordinate with permittees regarding the requirements for non-use or rest of treated areas. (SUP, WFU, RX, NF, ESR)
LG-2	Rangelands that have been burned, by wildfire, prescribed fire or wildland fire use, would be ungrazed for a minimum of one complete growing season following the burn. (SUP, WFU, RX)
LG-3	Rangelands that have been re-seeded or otherwise treated to alter vegetative composition, chemically or mechanically, would be ungrazed for a minimum of two complete growing seasons. (RX, NF, ESR)

Resource Protection Measure (and applicable fire management practices)	
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Recreation and Visitor Services	
Rec-1	Wildland fire suppression efforts would preferentially protect Special Recreation Management Areas and recreation site infrastructure in line with fire management goals and objectives. (SUP)
Rec-2	Vehicle tracks created off established routes would be obliterated after fire management actions in order to reduce unauthorized OHV travel. (SUP, WFU, RX, NF, ESR)
Lands and Realty	
LR-1	Fire management practices would be designed to avoid or otherwise ensure the protection of authorized rights-of-way and other facilities located on the public lands, including coordination with holders of major rights-of-way systems within rights-of-way corridors and communication sites. (WFU, RX, NF, ESR)
LR-2	Fire management actions must not destroy, deface, change or remove to another place any monument or witness tree of the Public Land Survey System. (SUP, WFU, RX, NF, ESR)
Hazardous Waste	
HW-1	Recognize hazardous wastes and move fire personnel to a safe distance from dumped chemicals, unexploded ordnance, drug labs, wire burn sites or any other hazardous wastes. Immediately notify BLM Field Office hazmat coordinator or state hazmat coordinator upon discovery of any hazardous materials, following the BLM hazardous materials contingency plan. (SUP, WFU, RX, NF, ESR)
Mineral Resources	
M-1	A safety buffer should be maintained between fire management activities and at-risk facilities. (SUP, WFU, RX)
Wilderness and Wilderness Study Areas (WSAs)	
Wild-1	The use of earth-moving equipment must be authorized by the field office manager. (SUP, WFU, RX, ESR)
Wild-2	Fire management actions would rely on the most effective methods of suppression that are least damaging to wilderness values, other resources and the environment, while requiring the least expenditure of public funds.(SUP, WFU)
Wild-3	A resource advisor should be consulted when fire occurs in Wilderness and WSA. (SUP, WFU)

2.3 ALTERNATIVE B: NO ACTION

The No Action Alternative consists of the existing fire management direction contained within each of the 21 LUPs (as amended). The 21 LUPs and amendments range in age from 27 years to 5 years (see **Table 1.2**). These plans mandate a wide range of fire management direction. The older the plan, the more likely it is to have full fire suppression goals. Regardless of age, the implied or stated rationale for full fire suppression in each plan is to protect human life, property and resource values. In every

plan, the constraint has been to control costs associated with the pursuit of fire management goals.

Table 1.2 in Section 1.2 contains a description of the plans with specific planning direction. Of the 21 LUPs that make up Alternative B, 14 of the plans (administered by the Salt Lake, Richfield, Fillmore, Moab, Monticello, Cedar City and St. George Field Offices and Grand Staircase-Escalante National Monument), contain specific goals, objectives and management actions pertaining to fire management. Five of the LUPs administered by the Salt Lake Field Office were amended in 1998 by the Salt Lake District BLM Proposed FMP Amendment UT-020-98-08, to reflect goals, objectives and management actions within the FMP developed for that region. A summary of existing direction within these 14 LUPs is included as **Appendix B**.

The remaining seven plans either do not state goals, objectives and directions specifically related to fire management or describe fire within other resource management needs. The discussion of fire as a management action for other resource management needs is focused on prioritization of fire as a tool to manage vegetation for rangeland management (Paria MFP, Vermilion MFP); consolidated lands treatment (Paria MFP); the preservation of wildlife values and habitat (Paria MFP, Escalante MFP); and soil loss and watershed health (Paria MFP, Vermilion MFP). Fire management actions associated with use of fire to meet a variety of resource goals and objectives were noted and summarized in **Appendix B**.

A number of the Land Use Plans recognize that some resource values can best be protected by allowing wildfires to burn. As a result, they call for implementation-level fire management direction that would identify the systems that need fire; discuss fuels management and other vegetation improvement policies; and list prioritized constraints. However, limited suppression policies have not been formally implemented through a Land Use Plan revision or other NEPA process. The most current Land Use Plans have provisions for prescribed burning, but the other plans fail to mention prescribed burns or mention it using vague language that contained no definable objectives or implementation strategies.

If the No Action Alternative were selected, then the 21 LUPs would not be amended and the existing fire direction would continue as described in **Appendix B**. The plans vary greatly and a wide-range of fire management goals and decisions would continue to exist. None of the plans address wildland fire use in restoring ecosystems. DWFC would not be defined, creating inconsistencies across Utah. Hazardous fuels reduction would be a limited part of BLM direction for Utah.

2.4 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER ANALYSIS

Two additional fire management alternatives—the Historical Fire Alternative and the Non-Fire Treatment Alternative—were considered, but eliminated from formal analysis because they either did not meet policy guidelines or they were not ecologically or fiscally practical. The two dismissed alternatives are described below.

2.4.1 Historical Fire Alternative

An additional fire management alternative was considered, but eliminated from formal analysis because it would not be ecologically or fiscally feasible. This alternative could be considered the Historical Fire Alternative as it sets treatment targets that mimic acres

burned historically, while considering the restoration of natural fire regime. These acres were determined from simple vegetation and fire return interval analysis described in **Appendix D**. The primary differences between this Alternative and Alternative A, is related to differences in treatment acres and differences in treatment types to achieve DWFC. This alternative would include larger treatment acres and treatments would be limited to fire treatments. **Table 2.4** summarizes the treatment acres that were considered for this alternative. These acre figures are generally much larger (in most cases, at least double) than what is described in fire treatment associated with Alternative A. Because the BLM manages scattered parcels of land in many areas, allowing fires to burn at this acreage would increase risk to private and state lands.

The basis for which this alternative was developed—restoration of natural fire regime—fails in that natural conditions no longer occur as a result of past management practices coupled with ecosystem alterations resulting from settlement. While it is known that there have been significant vegetation alterations since historical times, the extent or severity of most of these alterations remains uncertain. As a result of ecosystem change, passive restoration techniques, such as restoring naturally occurring fires to the land, would not have the same benefit to ecosystems as in the past. For example, invasive species concerns affect large portions of Utah. Without active restoration techniques, such as seeding, fires burning in these areas dramatically increase the risk of establishment of these invasive species. Establishment of these invasive species often results in the permanent loss of historical ecosystem components. Additionally, this alternative is unlikely to be funded to the extent necessary. Despite increases in fire management funding over the past five years, current and expected budgets for implementing fire management actions do not provide the necessary resources for accomplishing the identified treatment acres.

Table 2.4 Historical Acres Burned

Land Use Plan	Historical Target Acres Burned (15-yr cumulative)
Salt Lake Field Office:	
Box Elder RMP	205,860
Iso-Tract Management Framework Plan*	N/A*
Park City MFP	30
Pony Express RMP	453,405
Randolph MFP	69,345
Richfield Field Office:	
Forest MFP	28,035
Henry Mountain MFP	341,325
Mountain Valley MFP	164,565
Parker Mountain MFP	54,420
Fillmore Field Office:	
House Range RMP	536,880
Warm Springs RMP	529,140
Moab Field Office:	
Grand RMP	499,320
Monticello Field Office:	
San Juan RMP	550,260

Land Use Plan	Historical Target Acres Burned (15-yr cumulative)
Kanab Field Office:	
Escalante MFP	11,235
Paria MFP	9,900
Vermilion MFP	78,585
Zion MFP	47,085
Cedar City Field Office:	
Cedar Beaver Garfield Antimony RMP	406,065
Pinyon MFP	475,380
St. George Field Office:	
St. George RMP	144,825
Grand Staircase-Escalante National Monument (GSENM) Field Office:	
GSENM MP	589,005
TOTALS	5,194,665

* No figures were determined for Iso-Tract due to its small and disjointed planning area.

2.4.2 Non-Fire Treatment Alternative

The Federal Wildland Fire Policy (1995, 2001) directs that fire be restored as a natural part of the ecosystem. Another alternative considered would have prioritized non-fire fuel treatments above other types of treatments. However, this alternative did not meet the Purpose and Need of the amendment and was therefore dropped from further analysis because it would not restore fire as an ecological process